

CLAIMS

1. A tool holder device (1) supporting at least one tool (20, 21) intended to collaborate with at least one
5 substrate (50, 60) with the substrate positioned on edge, the device (1) being able to make the tool move translationally and rotationally relative to the substrate, it being possible for said substrate to be moved translationally relative to the tool as the tool
10 is operating, characterized in that the collaboration between the tool (20, 21) and the substrate or substrates (50, 60) occurs with or without contact relative to the edge face of the substrate or substrates.

15 2. The device as claimed in claim 1, characterized in that the device (1) is controlled via a control loop to ensure precise positioning of the tool (20, 21) relative to the substrate.

20 3. The device as claimed in claim 2, characterized in that it comprises means (1a) for compensating for the position of the substrate or substrates and at least one position sensor (1b), which means and sensor are
25 intended to be associated with the tool (20, 21).

4. The device as claimed in any one of the preceding claims, characterized in that the tool or tools (20, 21) consist of means for measuring, machining, shaping
30 or treating the glass substrate or substrates (50, 60).

5. The device as claimed in any one of the preceding claims, characterized in that the tool or tools (20, 21) consist of means of applying and bonding an
35 interlayer (72) to all or part of the periphery and to the edge faces (55, 61) of at least two substrates (50, 60) facing each other.

6. The device as claimed in claim 5, characterized in that the applying and bonding means consist of at least two press rollers (20a, 20b) each one designed to press against one of the edge faces (55, 61) of the two
5 substrates, the two rollers being control-loop controlled independently.

7. The device as claimed in claims 3 and 5, characterized in that means (1a) for compensating for
10 the position of a substrate and a position sensor (1b) are associated with each of the press rollers respectively.

8. The device as claimed in any one of the preceding
15 claims, characterized in that it comprises a rotary support (11) on which the tool (20) is fixed and a linear guidance element (12) with which said rotary support (11) collaborates, the support (11) being prevented from rotating when moved translationally by
20 means of the guidance element (12).

9. The device as claimed in claim 8, characterized in that it comprises a vertical beam (10) provided with the rotary support (11) and with the linear guidance
25 element (12) extending at least partially over the height of the beam (10).

10. The device as claimed in any one of the preceding claims, characterized in that it comprises a first tool
30 (20) able to move translationally and/or rotationally, and a second tool (21) which is arranged fixedly and is able to operate while the substrate or substrates (50, 60) are moving translationally.

35 11. The device as claimed in any one of the preceding claims, characterized in that the rotational and translational movements of the tool or tools (20, 21) and the control loop control of the device are controlled by numerical control means.

12. An installation comprising a tool holder device (1) as claimed in any one of the preceding claims and at least one module (3) for progressing, holding and positioning the substrate or substrates (50, 60) in the three directions of space (X, Y, Z) facing the tool holder device (1).

13. The installation as claimed in claim 12, characterized in that the progressing, holding and positioning module (3) consists of a fixed chassis (30) which comprises a roughly vertical stand (31), means (33, 34, 35, 36, 37) for holding and positioning a substrate (50, 60) against the stand in the X and Y directions, and means (37) for holding and positioning the substrate in the Z-direction.

14. The installation as claimed in claim 13, characterized in that the holding and positioning means (33, 34, 35, 36, 37) are controlled through a control loop.

15. The installation as claimed in claim 12, characterized in that the holding and positioning module (3) consists of a fixed chassis (30) and a moving chassis (40), these chassis collaborating with one another in such a way as each to support at least one substrate (50, 60), the substrates being placed facing each other and positioned relative to one another with a given separation.

16. The installation as claimed in claim 13 or 15, characterized in that the fixed chassis (30) and the moving chassis (40) are open in their upper part so as to support substrates of any dimensions.

17. The installation as claimed in claim 11, characterized in that the moving chassis (40) comprises means (49) for positioning, in the Z-direction, the

substrate (50) resting on the moving chassis so as to obtain the desired separation between the two substrates (50, 60).

5 18. The installation as claimed in claim 12, characterized in that the moving chassis (40) comprises means (37, 47) for holding and positioning, in the X-direction, the two substrates resting on the fixed and moving chassis, these holding and positioning means
10 (37, 47) being able to be moved in the Z-direction independently of the moving chassis.

19. The installation as claimed in one of claims 11 to 14, characterized in that the module (3) comprises
15 means (33, 34, 35, 36, 43, 44, 45, 46) for transferring a substrate supported by the fixed chassis (30) so as to transfer it to the moving chassis (40).

20. The installation as claimed in one of claims 11 to
20 19, characterized in that the means for holding and positioning a substrate comprise conveyor belts (33, 34) and suction means (35, 36) able to hold the substrate tightly against said belts.

25 21. The installation as claimed in claim 20, characterized in that it comprises an additional high-performance suction device (35c) so as to guarantee, for as long as possible, a tangential holding force holding the substrate at the end of the
30 module (3).

22. The installation as claimed in one of claims 9 to 21, characterized in that a holding system using suction cups (80) is provided, associated with the
35 module (3), for routing, from the module to an adjacent support element, a substrate which, in the X-direction, has a dimension roughly equivalent to or smaller than the space separating the module (3) from the support element adjacent to said module (3).

23. The installation as claimed in any one of claims 9 to 22, characterized in that it comprises several modules for progressing, holding and positioning
5 substrates, which may or may not be electronically coupled depending on the lengths of the substrates.

24. The installation as claimed in one of claims 9 to 23, characterized in that the holding and positioning
10 module (3) constitutes a module for preassembling and/or assembling insulating glazing comprising at least two glass substrates (50, 60) and an interlayer (72) secured to all or part of the periphery of the substrates.